

## **Determination of Public Land (Rangeland) Health for 65054 MUNSON RANCH**

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Munson Ranch allotment #65054 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered and Special Status Species standard. There are no public land riparian areas on this allotment, therefore this standard was not addressed.

/s/ T. R. KREAGER

Assistant Field Manager

08/10/2004

Date

# Standards of Public Land Health

## Evaluation of 65054 MUNSON RANCH Allotment

### [ 12/30/2003 ]

The Roswell Field Office conducted rangeland health assessments at one study site within the Munson Ranch Allotment #65054. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65054-BM147-C046	X			X			N/A		

Twenty -two (22) indicators for Rangeland Health were evaluated for the public land on the Munson Ranch #65054. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on one location were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) category due to the small amount of public land present.

The site classifies as a SD-3 loamy ecological site on approximately 390 acres/177 hectares of public land in BM Pasture. The soil phase is a Reeves-Holloman association with some gyp inclusions, occurring on uplands paralleling the east side of the Pecos River with slopes 0 to 5 percent.

The dry conditions occurring over the last several years have impacted this allotment. At present, no livestock are grazing this area which is adjacent to Commanche Spring Draw. However, a healthy herd of pronghorn (*Antilocapra americana*) does inhabit the allotment and surrounding area.

The indicators assessed rated from None to Slight, Slight to Moderate and Moderate. Bareground rated Moderate with an estimation of approximately 50-60 percent. This approaches the upper end of the range expected for the Ecological Site Description (ESD), which is 50% and long-term datum measuring 56 percent. Some gullying does occur on some areas of the pasture as a result of cattle trailing, but has had very limited impact on the site being evaluated or on the public land. This indicator, therefore, rated Slight to Moderate with no signs of active headcuts, nickpoints or bed erosion. There is some displacement of litter which rates Slight to Moderate. Only a slight degree of

departure has occurred from the ESD for the Functional/Structural groups indicator as evidenced by the absence of grama (*Bouteloua* spp.) and alkali sacaton (*Sporobolus airoides*). The predominant grass species found on site is tobosa (*Pleuraphis mutica*) and burrograss (*Scleropogon brevifolius*). This indicator rates Slight to Moderate.

Litter amount rated Moderate with an approximate estimation of 30% present, falling in the bottom end of the range expected. Annual production rates at Moderate with approximately 40-50% of potential. An estimate of 300-400 lbs/ac or kg/ha contributes to this rating. Invasive plants are currently very scarce with very few yucca (*Yucca* spp.) and prickly pear (*Opuntia* spp.) plants observed. This indicator rates Slight to Moderate. The reproductive capability of the small amounts of perennial plants present is only slightly limited and rated Slight to Moderate. Physical crusts are largely intact and holding the soil in place for this site, despite the amount of bareground present and the absence of perennial plant ground cover. This indicator rates None to Slight. With favorable climatic conditions and continued proper grazing practices, this site can potentially improve in health and productivity.

Wildlife - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence, as discussed above. Specifically, two biotic indicators fell within the Moderate rating, litter amount and annual production. Considering present climate regimes, these two indicators can be expected to fall within the normal range of variability. In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. Wildlife Habitat and Population indicators rate Slight to Moderate, primarily for pronghorn antelope and a variety of non-game terrestrial species. The composition of vegetation reflects current climatic conditions, e.g., drought for the past several years. Range site production and cover of a variety of preferred plant species for wildlife, such as forbs and woody browse species, and the availability of seed for food and regeneration, is moderated by climate and land use. Current observed wildlife populations reflect habitat condition. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators are, therefore, rated None to Slight.

Hydrology - Pasture BM147 - The bare ground indicator rated as moderate. The amount of bare ground has possibly increased due to recent dry conditions and also wind and water erosion processes. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bare soil. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits outcrop in the area. Gypsum and dolomite deposits of the Seven Rivers Formation outcrop in the area.

It is the professional opinion of the Assessment Team that the public land within the Munson Ranch, allotment #65054, meets the Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for any additional information regarding this assessment.

**Recommendations:** This site exhibits a potential for improved condition. With continued proper grazing management, ie timely rotation and rest, and favorable climatic conditions, the allotment's health as a whole should continue to meet the upland and biotic standards. It is highly recommended that the site and the allotment as well, be monitored on a more frequent basis to insure that proper measures can be taken in regards to administering the public land and surrounding area.

For future considerations a further evaluation of the watering points should be performed. There appears to be some gulying on the far reaches of the pasture due to cattle trailing and congregation. A critical evaluation of the condition of the fences should be performed. Some of the interior fencing needs to be repaired. Additional waters to improve distribution of livestock especially in the location of the study site could be installed, ie, troughs, water lines and storage.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65054-BM147-C046						
Legal Land Desc	NWSW 7 0110S 0270E Meridian 23		Acreage		390	
Ecosite	042CY007NM LOAMY SD-3		Photo Taken		Y	
Watershed	13060007010 GOPHER					
Observers	NAVARRO/BAGGAO		Observation Date		12/31/2003	
County Soil Survey	NM666 CHAVES SOUTH		Soil Var/Taxad			
Soil Map Unit	RL		Soil Taxon Name		REEVES	
Texture Class	NM666 L		Soil Phase		REEVES-HOLLOMAN	
Texture Modifier	NM666 LOAM					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	8.24		NOAA Growing Season Precipitation		4.91	
NOAA Avg Annual Precipitation	12.78		NOAA Avg Growing Season Precipitation		10.65	
Disturbances and Animal Use:						
<b>Part 2. Attributes and Indicators</b>						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extrem e	Moderat e to Extreme	Moderat e	Slight to Moderat e	None to Slight
S H	Rills					X
Comments :	Slight slope.					
S H	Water Flow Patterns				X	
Comments :						
S H	Pedestals and/or Terracettes				X	
Comments						

:						
S H	Bare Ground			X		
Comments :						
S H	Gullies					X
Comments :						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments :						
H	Litter Movement				X	
Comments :	Some litter being displaced.					
S H B	Soil Surface Resistance to Erosion				X	
Comments :						
S H B	Soil Surface Loss or Degradation				X	
Comments :						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments :	Native vegetation.					
S H B	Compaction Layer					X
Comments :						
B	Functional/Structural Groups				X	
Comments :	Absence of grama grasses ( <i>Bouteloua</i> spp.).					
B	Plant Mortality/Decadence					X
Comments :						
H B	Litter Amount			X		
Comments						

:						
B	Annual Production			X		
Comments :						
B	Invasive Plants				X	
Comments :						
B	Reproductive Capability of Perennial Plants				X	
Comments :						
S	Physical/Chemical/Biological Crusts					X
Comments :	Physical crusts evident.					
B	Wildlife Habitat				X	
Comments :	Grassland habitat area. Small allotment with small parcels of disjunct public land. A major drainage (tributary of Commanche Draw) just barely touches the public land. No riparian concerns.					
B	Wildlife Populations				X	
Comments :	Primary wildlife species of concern is pronghorn antelope and a variety of nongame terrestrial species. Forb production a concern throughout the allotment.					
B	Special Status Species Habitat					X
Comments :	None known to occur.					
B	Special Status Species Populations					X
Comments :	None known to occur.					
<b>Part 3. Summary</b>						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to	Moderate	Slight to Moderate	None to

			Extreme		e	Slight
S	Soil	0	0	1	4	5
H	Hydrologic	0	0	2	6	3
B	Biotic	0	0	2	7	4
<p>B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the <i>Does not Meet</i> column, Moderate becomes <i>May Need More Info</i>, and Slight to Moderate and None to Slight merge to form the <i>Meets</i> columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.</p>						
Attribute	Rationale		Does Not Meet		May Need More Info	Meets
Soil			0		1	9
Hydrologic			0		2	9
Biotic			0		2	11
<p>Site Notes: This site was GPS'd and new directions have been entered into the study file. Pronghorn (<i>Antilocapra americana</i>) do inhabit this site and surrounding vicinity. There were no livestock present at the time of the assessment. The allottee has recently taken some non-use, which may account for the absence of livestock. The absence of the grama (<i>Bouteloua</i> spp.) grasses and some forbs is of some concern. The recent dry climatic conditions have more than likely contributed to this problem.</p> <p>Wildlife Comments - Aside from the range site evaluation, there are several areas on the the allotment on private land that indicate accelerated erosion due to heavy cattle trailing (photographs taken of the areas). An interior fence was down and heavy trailing occurs through this area. The drainage bottom appears well-vegetated but there are a few nick points that could be protected to prevent further erosion.</p>						



T10 S. R26 E

His laboratory is one of the few centers of Latin American research in the country, and he has developed a research focus on the impact of international migration on social and cultural change in the region. He is also studying ELN, Spanish language, and literary traditions. He is a member of the National Academy of Sciences.